DRAFT

Circulating Tumor Cells (CTC): Emerging Technologies for Detection, Diagnosis, Prognosis and Treatment

September 10 – 11, 2009
The Mark O. Hatfield Clinical Research Center, NIH campus– Building 10
Bethesda, Maryland

Aim: To discuss technologies for CTC-based cancer detection, diagnosis, prognosis and treatment; to facilitate new scientific collaborations and interactions, and to build new research programs in the field; to promote the translation of basic research to application/product development.
Organization: Two-day conference for ~300 scientists, engineers, clinicians and investors from academia, medical centers, industry and government.

Preliminary Program:

Thursday, September 10, 2009

7:00 a.m. – 6 p.m. Registration

7:00 - 8:00 a.m. Breakfast

8:00 – 8:15 a.m. Welcome

8:15 – 8:30 a.m. Opening Remarks (TBA)

Introduction: Overview of Circulating Tumor Cells

8:30 – 8:55 a.m. Howard Scher, *Memorial Sloan-Kettering Cancer Center:*
CTC enumeration and characterization in the clinic
8:55 – 9:00 a.m. Q/A

Session I: Molecular characterization of CTC (moderator – Jacobson)

9:00 – 9:25 a.m. Daniel Haber, *Massachusetts general hospital cancer center:*
Molecular analysis of CTCs to guide targeted cancer therapies
9:25 – 9:30 a.m. Q/A

9:30 – 9:55 a.m. Jeffrey Chalmers, *Cleveland Clinic*:
Enrichment of CTCs in clinical samples using purely negative selection: Current status and potential
9:55 – 10:00 a.m. Q/A

10:00 – 10:15 a.m. Break

10:15 – 10:40 a.m. Pamela Paris, *University of California, San Francisco:*
Evaluation of a CAM-based CTC enrichment technique in hormone refractive prostate
10:40 – 10:45 a.m. Q/A

10:45 – 11: 10 a.m. **Philip Low,** *Purdue University*:
Use of Ligand-Dye Conjugates to Quantitate and Isolate Circulating Tumor Cells
11:10 – 11:15 a.m. Q/A

11:15 – 11:40 a.m. Eugene Frenkel, *University of Texas Southwestern Medical Center*:
Expanding and Quantifying the Molecular Signatures of Circulating Tumor Cells
11:40 – 11:45 a.m. Q/A

11:45 – 12:45 p.m. Lunch (on your own)

Session II: Translational strategies for the development & commercialization of CTC technologies (moderator Weingarten)

12:45 – 1:00 p.m. Ken Pennline, *Esoterix Clinical Trial Services A Division of LabCorp*;
Advancing technologies drive diagnostic sophistication

1:00 – 1:05 p.m. Q/A

1:05 – 1:20 p.m. Mark Lackner, *Genentech*;
Challenges and Opportunities in the use of CTCs for Companion Diagnostic Development

1:20 – 1:25 p.m. Q/A

1:25 – 1:40 p.m. Ken Song, *Venrock;*
Bench to Market: Building a successful and sustainable enterprise

1:40 – 1:45 p.m. Q/A

1:45 – 2:00 p.m. Michael Weingarten, *National Cancer Institute*

2:00 – 2:05 p.m. Q/A

2:05 – 2:30 p.m. Panel Discussion – NIH Funding opportunities for emerging technologies

2:30 p.m. – 2:45 p.m. Break

Session III: CTC Technologies- Immunomagnetic enrichment (moderator – Rinaudo)

2:45 – 3:10 p.m. Stefanie Jeffrey, *Stanford*:
Multiplex analysis of CTC
3:10 – 3:15 p.m. Q/A

3:15 – 3:40 p.m. Maciej Zborowski, *Cleveland Clinic*:
Magnetic separation methods for detection and analysis of circulating tumor cells
3:40 – 3:45 p.m. Q/A

3:45 – 4:10 p.m. Glenn Deng, *Stanford*:
Anti-cytokeratin combined with anti-EpCAM antibodies for circulating tumor cell enrichment and detection
4:10 – 4:15 p.m. Q/A

Session IV: CTC Technologies- Physics-based separation (moderator– Lou)
4:15 – 4:40 p.m. Richard Cote, *Keck School of Medicine*:
New Approaches to Cell Capture, Analysis and Biosensing Using Novel Nanotechnology Platforms
4:40 – 4:45 p.m. Q/A

4:45 – 5:10 p.m. Peter Gascoyne *University of Texas M. D. Anderson Cancer Center:*
Dielectric cell separation
5:10 – 5:15 p.m. Q/A

5:15 – 5:40 p.m. Peter Kuhn, *Scripps*:
The Physics of the Fluid Biopsy
5:40 – 5:45 p.m. Q/A

6:00 – 7:30 p.m. Meet and Greet Mixer / Poster Session

Friday, September 11, 2009

7:00 – 3:00 p.m. Registration

7:00 – 8:00 a.m. Breakfast

Introduction: Clinical utility of Circulating Tumor Cells
8:00 – 8:25 a.m. Massimo Cristofanilli, T*he University of Texas, M.D. Anderson Cancer:*
Clinical utility of CTCs in epithelial tumors
8:25 – 8:30 a.m. Q/A

Session V: CTC Technologies- Optical technologies (moderator – Sorbara)
8:30 – 8:55 a.m. Richard Bruce, *Palo Alto Research Center*:
Sensitive location and characterization of circulating tumor cells for therapy selection.
8:55 – 9:00 a.m. Q/A

9:00 – 9:25 a.m. John Viator, *University of Missouri*: Detection of circulating tumor cells using photoacoustic flowmetry
9:25 – 9:30 a.m. Q/A

9:30 – 9:55 a.m. Michael Keeney, *London Health Sciences Centre*:
Characterization of CTC using flow cytometry and laser scanning cytometry
9:55 – 10:00 a.m. Q/A

10:00 –10:25 a.m. David Kisker, *eOptra:*
Detection and Characterization of Circulating Tumor Cells Using Optofluidic Intracavity Spectroscopy
10:25 – 10:30 a.m. Q/A

10:30 – 10:45 a.m. Break

Session VI: CTC Technologies- Microfluidics (moderator – Rasooly)
10:45 – 11:10 a.m. Mehmet Toner, *Harvard Medical School:*
Clinical Microfluidics f or Isolating Rare Circulating Tumor Cells
11:10 – 11:15 a.m. Q/A

11:15. – 11:40 a.m. Steve Soper, *Louisiana State University*:
Selection and Enumeration of Rare Circulating Tumor Cells using Polymer-based Microfluidics
11:40 – 11:45 a.m. Q/A

11:45 a.m. – 12:10 a.m. Hisham Mohamed, *New York State Department of Health*:
Isolation of tumor cells using size and deformation
12:10 – 12:15 a.m. Q/A

12:15 a.m. – 1:30 p.m. Lunch (on your own)

Session VII: Clinical aspects of CTC Analyses (moderator – Lively)

1:30 – 1:55 p.m. Lyndsay Harris, *Yale*:
Use of CTCs to predict response to therapy
1:55 – 2:00 p.m. Q/A

2:00 – 2:25 p.m. Steve Cohen, *Fox Chase Cancer Center*:
Use of CTCs to predict response to therapy
2:25 – 2:30 p.m. Q/A

2:30 – 2:55 p.m. Robert Kinders, *National Cancer Institute*:
g-H2AX in CTC as a Pharmacodynamic Marker
2:55 – 3:00 p.m. Q/A

3:00 – 2:25 p.m. Hope Rugo, *University of California, San Francisco*
2:25 – 3:30 p.m. Q/A

3:30 – 3:45 p.m. Break

Session VIII: FDA regulatory aspects (moderator – Lightfoote)

3:45 – 4:10 p.m. Alberto Gutierrez – *Food and Drugs Administration*: Regulation of Novel In Vitro Diagnostic Devices

4:10 – 4:35 p.m. Federico Goodsaid - *Food and Drugs Administration*:
Biomarker Qualification Process

4:35 – 4:45 p.m. FDA Speakers' Q/A

4:45 – 5:15 p.m. Future approaches: Drs. Scher /Cristofanilli

Questions: What is purpose of technology? How will it help to answer the clinical questions? How can we help to expedite the transition to clinical use?